



Washington State Enhanced Hazard Mitigation Plan

Requirement 44 CFR §201.4(c)(7): *Assurances.* The Plan must include assurances that the State will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, in compliance with 44 CFR 13.11(c) of this chapter. The State will amend its plan whenever necessary to reflect changes in State or Federal statutes and regulations as required in 44 CFR 13.11(d) of this chapter.

Purpose of the State Hazard Mitigation Plan

The purpose of the Washington State Hazard Mitigation Plan (SHMP) is to provide guidance for hazard mitigation in the State of Washington. It identifies hazard mitigation goals, objectives and recommended actions and initiatives for Washington state government that will reduce or prevent injury and damage from natural hazards. Participating agencies provided strategies that will improve their resistance to the impacts of a natural hazard-caused disaster.

This plan meets requirements for an Enhanced State Plan under 44 CFR 201, published by the Federal Emergency Management Agency (FEMA). It also meets the requirements of plan review guidance developed by FEMA in 2008 for updating of state plans.

Meeting the requirements of the regulations noted above keeps the State of Washington qualified to obtain all disaster assistance including hazard mitigation grants available through the Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288, as amended.

Plan Organization

The Washington SHMP contains the following sections:

- Introduction and Assurances, Tab 1.
- Description of the process used to develop this plan, Tab 2.
- Description of the coordination of this plan with local planning initiatives, Tab 3.
- Description of how this plan will be maintained once approved by FEMA, Tab 4.

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- Risk Assessment, Tab 5, which includes profiles of nine regions of the State of Washington and the nine natural hazards faced by the state. A synopsis of the at-risk facilities owned or operated by the state agency partners of this plan are at the end of hazard profiles as well as regional profiles. A description of the State of Washington, its geography, climate, economy, and government is also contained within Tab 5. Also within Tab 5 are the hazard profiles, including historical data.
- Description of the hazard mitigation strategy and goals for the state, and a list of recommended actions and initiatives to improve the state's resistance to natural hazard-caused disasters, Tab 6.
- Description of how the state meets the Enhanced Plan criteria, Tab 7.
- Copy of the state's administrative plan for federally funded hazard mitigation grant programs, Tab 8.
- New to this year within Tab 9 is the State's first attempt at the Loss Avoidance Study as required by 44 CFR 201.5(b)(2)(iv).
- Tab 10, also a new section to the State's Hazard Mitigation Plan which provides a description of the methodology utilized for the analysis performed in the various sections of the plan. It provides much greater detail than previous plan editions, and provides an accounting for the local jurisdictions to re-create a similar analysis within their own jurisdictions.
- Best Practices, Tab 11, is a new section which includes mitigation projects completed within Washington State. The intent of this section is to bring awareness of the various types of mitigation projects completed, and to provide examples of the types of difficulties both the jurisdiction and the State had in gathering all of the required data to complete grant applications. It is hoped that this section will provide a source for jurisdictions to develop ideas for hazard mitigation projects and creating successful grant applications.
- Tab 12 is another new section encompassing Best Available Science, which provides a list of resources available for hazard information.
- Tab 13 represents the Annex portion of the plan.

2010 Revisions to the State Plan

Below is a synopsis of the revisions made to the sections of this plan. The plan incorporates information for events, disasters, studies, and planning efforts occurring since the last plan update through January 31, 2010 unless otherwise indicated, as with

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the risk analysis at the local level which utilized data received April 1, 2010. The next plan edition will incorporate data starting February 1, 2010.

New additions – New to the 2010 State Enhanced Hazard Mitigation Plan include Tabs 9, 10, 11 and 12 as described above.

Maps, Charts and Visual Effects - Throughout the plan, maps, charts and graphs were updated with current information. Each altered item was dated to enable ease in reference to make certain the most current information was been utilized.

Washington State profile – Information updated with current information.

Planning process – Provides description of how the plan was reviewed and revised for the 2010 edition; includes the agencies and individuals involved, and in what manner they were involved. The Report Card section which previously included two tables identifying mitigation strategy action items has been removed from this section, with reference made to Tab 6, which contains all of the information related to the status of the various mitigation strategies. The method of maintaining the Action Items was modified from a table to an access database, which will enhance our ability to manipulate the data to gain specific information as needed. The information contained within the Planning Process portion of the plan was updated in general with current information.

Coordination of local planning – Provides information on the support provided to local jurisdictions during the 2007-2010 update cycle; how local plans were reviewed and approved with relevant information incorporated into the 2010 SHMP, and how local mitigation projects are reviewed, prioritized and recommended for funding.

Plan maintenance – Provides a description of the 2007 implementation process, how it worked during 2008-2010, and revisions made to the process for the current plan. The tables with status reports on mitigation actions identified in the Mitigation Strategy and 2004 state agency annexes previously incorporated in this section can now be found in Tab 6. The 2004 Action Items which were referenced as being complete in the 2008 plan update have been removed. Those Action Items which have been completed since the 2008 plan edition have been separated from the remaining Action Items and incorporated in a separate table in Tab 13, Annex 3. Those items, during the 2013 plan update cycle, will be removed. Historical data (2000-2004 plan maintenance information), unless relevant for comparison purposes or necessary for clarification, was removed to avoid confusion and for ease in reading of the plan.

Risk assessment - A new methodology was developed for use in determining hazard prioritization and hazards of greatest concern. This process has been included within the Risk Assessment portion of the plan, Tab 5. The methodology was distributed to 25 local planners and contractor/consultants who have recently completed plans. This was done to gain some perspective at the local level as to whether or not the Risk Assessment, as developed, provided a viable tool which the locals can also utilize in their plan development. It is hoped that by providing this example, local jurisdictions will

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utilize this (or a similar mechanism) which will allow the state to incorporate information contained within their risk assessment into the State's plan. The risk assessment received very favorable responses, with only a few suggestions for modification. Those suggestions will be reviewed during the next three year update cycle so as to allow the subject matter experts for the various hazards to provide input and suggestions prior to making additional revisions to the Risk Assessment. This issue is discussed in further detail within the Coordination with Local Plans portion of Tab 3.

Socio-economic profiles - The state's nine planning regions were updated. Population figures and median household incomes for each county were updated, using April 1, 2009 estimates developed by the State Office of Financial Management's (OFM) Forecasting Office. Hazard tables and loss estimates for each region were updated to reflect revisions made in the hazard profiles and determination of at-risk state facilities (see narrative below). The 2000 U.S. Census Data remains the most current in many areas of the profile. Where more current data was available, indication by reference year has been made.

Hazard Zones – Geospatial datasets for hazard zones in combination with geo-coded facility information was used to refine the state facility projected loss information. Some datasets utilized during this plan update have been enhanced dramatically as indicated in Tab 5. The dataset used for each hazard and the methodology used to describe how loss estimations were conducted are now detailed in Tab 10, Methodology.

State facilities data – During the 2009 Legislative Session, the State Office of Financial Management was tasked with the responsibility to create a new system for capturing all state lands and facilities, both owned and leased. This project ran concurrent with the Emergency Management Division's update of the same data. In an effort to streamline efforts and work together on this project, State EMD and OFM pooled together the requirements needed for both agencies, conducting a needs assessment. At this point, it was determined by emergency management staff that it would be overly burdensome to expect state agencies to update their facilities data for EMD purposes, and a short time later for OFM purposes. Based on the needs assessment, the information gathered by OFM would include the necessary information required by EMD. The data gathered is much more extensive than what had been gathered historically. This data collection project was not completed until the end of January 2010, at which time the data was turned over to EMD staff for use in developing the mitigation plan. The dataset utilized to run the 2010 risk analysis includes information on more than 8,554 state agency owned and leased facilities statewide. Previous plan editions estimated in excess of 11,000 facilities. During this update process, it was discovered that many of the facilities listed as being "owned" by the state were, in actuality, not. Additionally, in past FIS reports, the subleasing agency reported their lease, while at the same time the master leasing agency reported the total leased space, thus double-reporting the subleased space. Not captured within the first phase of the project by OFM were communication towers, many of which are considered critical facilities by mitigation standards. This issue will be addressed within the plan maintenance section (Tab 4) to make certain communication towers are incorporated during the next update cycle. These changes and others reduced the number of facility reported in 2009. Likewise, of

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the 7,201 owned facilities, other contributing factors also precluded their inclusion in the analysis as follows: outside the state - owned 2, leased 23; no lat/long or address 13 owned; 1 leased. A more detailed history of this data collection project and further explanation of the detail involved can be found in Tab 10, Methodology.

Hazard Profiles – The plan now focuses on six (previously five) natural hazards for which geospatial hazard zone information is available, and for which the state has an emphasis on preparedness and mitigation – Earthquake, Flood, Landslide (new), Tsunami, Volcano, and Wildland Fire. These profiles include information on at-risk state facilities. Profiles for three (previously four) other hazards – Avalanche, Drought, and Severe Storm – were included, but without information on at-risk state facilities. All profiles were updated to include a summary of the hazard page and include significant hazard events that occurred between early 2007 and December 2009. Four new profiles were included in this update process: Hazardous Materials, Climate Change, Public Health and Dam Safety. No loss estimations are included for the four new technological hazard profiles. Other changes include:

Avalanche hazard profile – Updated information on avalanche incidents, including fatalities during 2006 to 2009.

Drought hazard profile – This profile was not reviewed during this plan edition as no significant drought occurred during the planning cycle.

Earthquake hazard profile – Entire section reviewed by three subject matter experts with updates throughout. To enhance this profile, within Tab 12, *Best Available Science*, various ShakeMaps completed by USGS and CREW have been included for ease in access by locals for review and inclusion in their respective plans.

Flood hazard profile – Added information on events occurring during the planning cycle from 2007 through December 2009, as well as enhancing the events occurring during the 1970s, which had previously been missing from the plan. This portion of the plan now also includes information on the NFIP, CRS, Severe Repetitive Loss and Repetitive Loss properties.

Landslide hazard profile – This section was totally rewritten to include new data and studies, and added information on landslides of significance that took place from 2006 through November 2009. Also includes information from the 2008 landslide database created by DNR, and now contains an estimation of loss for state facilities.

Severe Storm hazard profile – During the last plan update, the number of severe storm types profiled was reduced to two – high winds and winter storm – as these are the storms of greatest concern to local jurisdictions. This was maintained during this update cycle. The Jurisdictions Most Vulnerable to each storm type was revised in accordance with the local plans. The profile was

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updated with information to incorporate the February 2007, December 2007, January 2009 and March 2009 storms that resulted in disaster declarations.

Revised other tabular information.

Tsunami hazard profile – This portion of the plan was rewritten and enhanced by two subject matter experts. The updated information provides for greater ease in understanding and brings current the information with respect to events occurring since the 2006 plan edition. New inundation and evacuation maps were also included.

Volcano hazard profile – This profile was not reviewed in detail during this plan edition as no significant volcanic events occurred during the planning cycle. However, new updated maps were included. This profile will be reviewed and updated extensively during the next update cycle as WA DNR, with funding from USGS, is conducting a lahar study for Mt. Rainier, which is anticipated to be completed by September 2011. That information will be incorporated into the 2013 plan update.

Wildland fire hazard profile – Updated figures for fires and acres burned for state owned and protected lands, and updated charts. Updated maps demonstrating fire seasons.

Mitigation Strategy – Revised list of mitigation actions with current status of strategies, included new strategies, and made minor edits and revisions throughout. Updated sections on Repetitive and Severe Repetitive Loss.

Enhanced Plan – Updated with current 2007 – 2010 mitigation initiatives and documentation that the state is committed to a comprehensive mitigation program. Provided a detailed listing of technical assistance which the State provided to local jurisdictions in support of their planning initiatives. Added Loss Avoidance Study (Tab 9) detailing the progress to date for 24 completed projects, and detailed the methodology of study to determine the level of success of those completed mitigation projects. This study also goes beyond FEMA funded projects and includes initiatives underway which have the potential to have a high impact on mitigation initiatives statewide.

Hazard Mitigation Administrative Plan – Included the most current approved version of the state's Administrative Plan (2009).

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Assurances

The State of Washington will comply with all applicable Federal statutes and regulations in effect with respect to the periods which it receives grant funding, in compliance with 44 CFR 13.11.c. The Washington SHMP will be amended according to the process described in Plan Maintenance, Tab 4, whenever necessary to reflect changes in State or Federal statutes as required in 44 CFR 13.11.d.

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